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Fidonet HAM/PACKET Digest - For up to date HAM/PACKET info

Published by : Brian Murrey KB9BVN at Indpls, IN
SouthSide BBS (317)882-9330

Send all article submissions to Brian Murrey at 1:231/30
Or via GEnie address MURREY

Mail articles to: SouthSide BBS
PO Box 47453
Indpls., IN 46247

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E D I T O R I A L S

In this issue you will find a copy of the FCC docket dealing with the upcoming 1992 WARC meeting. Please take some time to read it as it will affect Ham Radio for the next several years to come. I would also like to thank Art Human (W2HQQ) for sending in the Novice article that was written by Paul Danzed (N1II) and to Paul for giving permission to share it here.

Also are the regular clips and pieces of informative mail that has been passed through the Fidonet Ham and Packet echomail areas.

73! de KB9BVN

<Soon to be on Packet>

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B U L L E T I N S

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DX BULLETIN 2 ARLD002

FROM ARRL HEADQUARTERS
NEWINGTON CT JANUARY 12, 1990
TO ALL RADIO AMATEURS BT

THANKS TO PAUL, KB1BE, AND THE CONNECTICUT DX ASSOCIATION FOR THE FOLLOWING DX INFORMATION.

BOUVET. LAST CHANCE FOR 3Y5X. THE SIX OPERATOR TEAM PLANS A COMPLETE SHUTDOWN ON THE 13TH.

3Y0B, BOUVET AND VP8, SOUTH SANDWICH. PLANS FOR THESE OPERATIONS HAVE BEEN POSTPONED INDEFINITELY DUE TO LACK OF TRANSPORTATION.

VP8 - SOUTH SANDWICH AND SOUTH GEORGIA. THIS DXPEDITION HAS BEEN RESCHEDULED FOR NOVEMBER 15 TO DECEMBER 15. ACCORDING TO TONY, WA4JQS, THE LICENSES FOR BOTH ISLANDS ARE VALID UNTIL YEAR END.

MALDIVES. F6EEM AND F6FY WILL OPERATE AS 8Q7BX FROM JANUARY 12 THROUGH 17 ON ALL BANDS AND MODES.

BENIN. IT9AES, IT9PHY, I2RLX AND IT9SXA WILL SIGN TY0AS UNTIL JANUARY 20 ON 160 THROUGH 10 METER CW AND SSB. QSL VIA IT9AZS.

GUANTANAMO BAY. K8UNP WILL OPERATE AS KG4UN FROM JANUARY 23 THROUGH 25 ON 80 THROUGH 10 METER SSB AND CW. QSL TO HIS HOME CALL.

SOUTHERN SUDAN. A DXPEDITION BY PA3CXC, F2CW AND OTHERS IS BEING PLANNED FOR LATE MARCH AND INTO APRIL CALL SIGNS WILL BE 6T0DX AND 6T0CW.

GRAND CAYMAN. BRUCE, K0BJ, WILL SIGN ZF2NJ JANUARY 14 THROUGH 26. PLANS ARE FOR CW ON 20, 15 AND 10 METERS AND SOME LIMITED SSB. QSL TO PO BOX DX, COLBY, KANSAS 67701.

VANUATU. HILDE, DL5UF, ULMAN, DK1CE AND BERTHOLD, DF5WA WILL OPERATE CW AND SSB BEGINNING FEBRUARY 4 AND THEN MOVE ON TO THE SOLOMON ISLANDS, H4. LISTEN UP 5 KHZ FOR CW. CHECK 3795, 7075, 14195, 21195 AND 21196 AND 28495 KHZ FOR SSB. THEIR SUNRISE IS 2330Z AND SUNSET IS 1130Z.

PITCAIRN. VR6 STATION CAN SIGN VR200PI/ THEIR NORMAL SUFFIX

DURING 1990 TO COMMOORATE 200 YEARS SINCE THE LANDING OF THE HMS BOUNTY.

ARRL Propagation Bull. #2

QST DE W1AW Propagation Forecast Bulletin 2
ARLP002
From ARRL Headquarters Newington CT January 8, 1990
To All Radio Amateurs

The new year and decade are relatively quiet as we start 1990 off with the solar flux falling at a very rapid rate. Just before the old year's end, the solar flux was around 220. It had been considerably higher, but it is now down to 183 and still falling, on the 7th. Radio con- ditions have been quite good however, and are expected to remain so through most of the forecast week.

The solar flux is dropping at a moderate rate and it is expected to continue through about 10 January. There should be a gradual turnaround with rising solar flux numbers after about 12 January. Propagation should be generally good, with rising MUF, through about 24 January.

In a period of rising solar activity, the MUF rises with results most noticeable on 28 and 50 MHz. We are near the expected peak of solar cycle 22. Look for interesting times on ten and six meters and on the new bands as well.

IARN for January 27th, 1990

The I.A.R.N., International Amateur Radio Network, airs a 45-minute program 5 times daily simultaneously on 3975 KHz (LSB); 14275, and 28475 KHz (USB) at these UTC times: 1200, 1400, 1800, 2200, and 0100. When the I.A.R.N. is activated on 14.275 during emergencies, the program may be moved down to 14.265 KHz (3975 and 28475 may be affected.) There are two additional Sunday transmissions: on 3890 KHz (AM) at 2300, and 7290 KHz (AM) at 2400. The I.A.R.N. program is transmitted by Glenn Baxter, K1MAN, from Belgrade Lakes, ME. Telephone: (207) 495-2215; FAX: (207) 495-2069; IARN/RAIN computer BBS: (207) 495-2490.

I.A.R.N. broadcasts 4 times daily from Los Angelas via Frank Collins, N6TAF on 2 frequencies: 28670 KHz at 1545 hours, beaming the east coast; and on 21275 KHz at 2000 (also beaming the east coast), 2300 (beaming the Pacific), and 0100 (beaming north. For more information, contact Frank at the VA hospital in L.A., (213) 478-3711, ex. 5230.

The current program, on line now 'til 1800 UTC, Sat., Jan. 27, 1990, includes: 2 editorials dealing with the ongoing "net mess" on 14.313 MHz; Newsline; the last segment of an interview with ham radio school teacher, Carole Perry, WB2MGP; and more.

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A R T I C L E S

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Novice Tips from Paul Danzed, N1II

The following article was submitted by Arthur Human, W2HQQ, of the Greater Norwalk Amateur Radio Club, of which Paul is a member. Paul has given permission for the reprint of his article here. Thanks Paul and Arthur!

This month let's talk a little about propagation - or to be more specific, where to work DX from 80 to 10 meters. Those who have been licensed 6 years or less have not seen the true difference between the high point and low point on the sun spot cycle. To

put it another way you don't know how good you have it now till you have had it bad later.

Don't delay in getting on the HF bands. In a few years, when local stations are all you can hear on 10 and 15 and "DX" on 20 meters at night are a few W8's, you will long for the good old days or 1989-1990.

There are many ways to tell you what band to operate on - but rather than make a bunch of calculations or spend precious operating time waiting for an up to date propagation forecast broadcast I like to use the tables in each month of QST.

These tables are calculated averages - usually accurate, but sometimes a solar flare, magnetic storm, or some gremlin makes them inaccurate - at least for a few days.

Since they are generally pretty good I use them. Open up the latest QST and look for "How's DX" in the table of contents. You will find a set of curves - and since we live on the east coast only those labeled "East Coast to ...." are of any interest to us.

Let us suppose I want to operate (or only have the time to operate) at 0200Z, late in the evening. I generally look at all the "East Coast to..." curves and try to find one with a peak around the time I want to operate.

For this example East Coast to AUSTRALIA peaks or at least is high around 0200Z, so that is where I would point my beam.

The next question is what band? There are three curves - the top one shows what frequencies could be open 10% of the time - known as "let's take a chance". The middle curve says that for these frequencies the path is open 50% of the time, and the bottom one 90% of the time. I like 50% as a start. Therefore I pick the ham band just below the frequency shown by the 50% curve. I figure equal odds are as good as I am going to get anywhere.

Now the trick - The curves say the path is open - but this does not mean anyone is talking. Listen carefully for weak signals, but if you do not hear anything try calling short (3 by 2) CQ's

a few times. I wish I had a nickle for every time I heard nothing on the low end of 15 meter CW, called CQ, and had half dozen JA's come back to me. Everyone was listening, and no one was talking. If you are a relatively new novice or technician, don't wait - you might not get around to upgrading for awhile and the bands are open now - so give it a try.

73s de Paul N1II

70 CM SAT SIGNALS IDENTIFIED

In the past years non-amateur satellite signals have been disovered in the 70 cm band on a regular basis. Usually these satellites can be identified after a while but since this band is a shared band, nothing can be done about these satellite transmissions. In the past half year new signals from three different satellites were found in the 70 cm band. In the past several weeks many confusing and conflicting messages were sent around the European packet network about these satellite signals. Hopefully the following information canclarify the situation.

There are two different types of satellites involved, which should not be confused: the Polar Bear satellites transmitting on 435.974 MHz and the satellite transmitting on 432.882 MHz.

A. Polar Bear satellites

During the spring of 1989 some radio amateurs discovered signals on 435.974 MHz coming from two different satellites. A number of amateur radio stations, especially in the UK, measured the orbital parameters using doppler shift measurements. The satellites were identified last summer as US American military Experimental Arctic Polar Bear satellites. These USAF satellites are in orbits exactly over the poles and are used for research and experiments with radio communications in the polar regions. The effects of aurora and other solar and geophysical phenomena on satellite links near the poles are being investigated using these satellites. A couple of months ago one of these satellites was switched off. The other one is still active but is not switched on continuously. It usually only transmits when it is near the polar regions. The Polar Bear signals are not very strong on 435.974 MHz. Polar Bear satellites transmit several unmodulated coherent carrier signals on frequencies which are harmonics of 22.946 MHz, so some of the other signals can be received on 137.676 and 413.028 MHz. Polar Bear telemetry transmissions can be heard on 149.980 MHz. The

active Polar Bear satellite has NORAD catalog number 17070 and international designation 1986-088A. Kepler orbital elements of this Polar Bear satellite are as follows:

Reference Epoch: 89 200.613056
Decay: 0.0000021 orbits/day/day
Inclination: 89.5349 degrees
A.A.N.: 72.7417 degrees
Eccentricity: 0.003845
Argument of perigee: 184.6712 degrees
Mean anomaly: 175.4099 degrees
Mean motion: 13.726335 orbits/day
Orbit number: 13422

B. Satellite on 432.882 MHz

Many amateurs worldwide have now heard a very strong satellite carrier signal on 432.882 MHz, (my receiver says 432.882 MHz; it could be 432.881 MHz, but certainly not 432.880 MHz). This strong carrier was first discovered by British amateurs on 4 September. Immediately after the signal was reported I started doppler shift measurements. Within one week I was able to identify the satellite. It appeared to be a US American military reconnaissance satellite. Its NORAD catalog number is 11852 and its international designation is 1980-052C. This small satellite was launched in the middle of 1980, together with at least one other military satellite (Big Bird). It is in a near polar orbit at an average altitude of about 1330 km. Since NASA/NORAD do not publish kepler orbital elements for this satellite anymore, I had to determine them myself from numerous doppler shift measurements. Since this type of satellite does not transmit radio signals under normal conditions, it is assumed that its command station has lost control over this pretty old satellite. As a result, they don't seem to be able to switch off the transmitter on 432.882 MHz. Also the fact that the carrier does not seem to be modulated with any useful information indicates that something is wrong with the satellite. So we may expect this carrier to continue to be transmitted for some time yet. Since it is in the beacon transmitters segment of our 70 cm band, we can just as well use it as an interesting beacon signal from space... My home-made set of kepler elements for 1980-052C is as follows:

Reference Epoch: 89 248.64965278
Decay: 0.0000003 orbits/day/day
Inclination: 96.61 degrees
R.A.A.N.: 71.0 degrees
Eccentricity: 0.0035
Argument of perigee: 42.2 degrees
Mean anomaly: 321.7 degrees
Mean motion: 12.82978 orbits/day
Orbit number: ?

Note: Please do not confuse the Polar Bear satellites with the satellite transmitting on 432.882 MHz (1980-052C). There is no relation between them except for the fact that they all happen to be US American military satellites. Their missions are entirely different.

Since our 70 cm band is a shared band, there is probably nothing we can do against the use of these frequencies by these non-amateur satellites. Probably the best thing we can do is make good use of the availability of these satellite beacon signals for our own radio propagation studies.

Good luck and best 73,

Nico, PA0DLO @ PI8ZAA.

How to send NTS

Sending NTS messages on packet is simple and easy. If you have a friend that is already on packet and wish to send him or her a message, all that is necessary to know is that friend's home bbs (where he/she checks for mail and bulletins regularly. The format on any linked w0rli type bbs is simply; "SP Callsign @ BBScallsign". An example of sending a personal message to my friend Robby, N6LAM, who uses WD6BFC BBS would be:

"SP N6LAM @ WD6BFC". This message would be automatically forwarded from my local BBS to WD6BFC BBS and when N6LAM checked into the WD6BFC BBS in Redding he would see that mail was waiting for him. The "P" in "SP" makes the message personal so that only the originator and addressee can read it and it is not listed with the "L" command to others. This is a recommended practice as it saves congestion on busy BBS channels by not

having to list irrelevent data.

Now comes NTS. What if you want to send a message to a ham friend who is not on packet? He can't pick the message up at a BBS. No one else can kill the message if it's sent to his callsign unless he/she kills it (or you do). Also what if you wanted to send a message to a non-ham (radiogram)? What if there is a disaster and the local disaster agency asks you if you can send thousands of radiograms out to relatives and friends of victims telling them that they are alright? This is where the National Traffic System (NTS) radiograms can do the job i.e., as a public service. W0RLI devised a way where third party traffic could be deleted by traffic handler. It is the "T"option. If you send a message "ST" then it can be read and killed by anyone. The message may be killed by typing "KT ####" where #### is the message number. Thus third party traffic is allowed to be deleted after it is safely in the hands of a traffic delivering or relay station even though the message is not sent to that person's own callsign.

Let's now see how to actually use NTS and send a message. Remember that the existing packet bbs system works fine for ham to ham communications as long as both hams are on packet and know each other's mailbox. Otherwise the message must be sent to special designators and in NTS format. It is important to use the accepted and nationally recognized designators if we are to not delay the traffic needlessly.

USE THE ACCEPTED DESIGNATORS

Use valid designators. See the file desig.nts on most WestNet BBS. Currently the nationally recognized and supported designator is the 5 digit zip code in the "to" column with the "ntsxx" abbreviation in the @ column. (Note that xx are the standard Post Office abbreviations found in the ARRL Net Directory for States and Provinces). @ NTSXX can be left out of any Calif bound traffic if sent within California and is only

helpful for out of state traffic. Some examples for sending NTS traffic are:

ST 60625 @ NTSil QTC 1 Chgo Il 312 453
ST 94610 QTC 1 Oakland CA 415 763

ST 06111 @ NTSCT QTC 1 Newington CT 203 666
ST 91006 QTC 1 Arcadia CA (no phone)

If you do not know the zipcode and do not have a post office zipcode book, then the message may be sent to ntsxx @ ntsxx as we assume that everyone will know the State or Province. Messages sent with inadequate addresses and without phone numbers are not encouraged and delivery may be delayed or impossible. Remember that there is a ham on the other end who will have to deliver the message and we should make his/her job as easy as possoble.

The title should indicate the destination city of the message as well as contain the first 6 numbers of the telephone number so that some delivery stations may be able to ascertain their ability to deliver without having to read the text.

NTS designators for packet depend on a complex system of HF/VHF GateWays, NTS officials, linked VHF systems, BBS software support, and other groups to agree upon more efficeint methods and designators. This system is constantly evolving and is subject to change. For the current list of supported NTS designators, see the file DESIG.NTS found in most WestNet BBS. It is expected that the 5 digit zipcode @ ntsxx format will be supported for quite some time.

NTS MESSAGE FORMAT

NTS radiogram format is like an envelope within an envelope. The outer envelope is the packet bbs message itself being forwarded via W0RLI forwarding protocols and headers. The NTS envelope is the age old NTS radiogram format which can interface with local and section nets and allows delivering stations all the necessary information to trace, service and deliver the message. The following is the standard ARRL radiogram format.

Radiogram format should follow the standard ARRL radiogram message format in order to maintain the necessary information to interface with SECTION nets, tracing originators, and essential record keeping. Delivery nets all across the Continental USA will not accept traffic for delivery unless it is in standard NTS form.

Standard ARRL message form requires a number, station of origin, word count (check), place of origin, date and time. Give as a full an address as possible. Separate the text with a BT. End the message with the signature and the prosign AR. Sending

"ctrl Z" will send the message to the mailbox.

When connected to the WestNet linked BBS, the following commands should be used and the message format adhered to:

```
prompt >   - (Your Prompt)          (Note the ">" is your
ST 60625 @ NTSIL<cr> - (Use ST 5 digizip @ NTSXX, xx = State)
Enter title for message>
QTC 1 Chicago Il 312 453 <cr> - (quantity, QTH, 1st 6 of TX)
Enter text and close with a Ctl-Z (^Z):

Nr 1 W6ABC 20 San Francisco Ca 1230Z Nov 25  (Std. NTS fmt.)
Mr George Smyth                  (Addressee)
2315 North Oak St                (Give FULL address)
Chicago Il  60625                (Include Zip as shown)
312 453 1793      BT             (Give Phone number)
                                  use BT to separate text
Hi Dad arrived safely at         (five words per line
San Francisco X stop over         makes it easy to
only two hours then Guam          check the word count)
X will write soon love    BT     (give BT at end of text)
John                      AR     (Use AR at end of message)
```

Include all helpful information in the address. If there is an apartment number or a space number (mobile parks), zip code, area code, etc be sure to include it when entering the message. Always check for typos.

OPERATING PROCEDURES

Remember to use the "T" in the "ST" command or your message will not be able to be killed with the "KT" command at the end point. When you check into a mailbox type "LT" to get a list of NTS traffic. If you can deliver any, type "R Number" and after making sure you have 100 % copy, delete the message. To kill (delete) NTS traffic use the "KT" command followed by the message number. *Do so only after you are sure you have confirmed copy*. This erases the message so it won't be delivered twice. On some systems it also services a message back to the originator that the message has been picked up and by whom and when.

Summary:

LT Lists all NTS traffic on the BBS
R ##### Reads the message number #####
KT ##### Kills the message number ##### (Use only after you are sure of 100% copy) ST ZZZZZ @ NTSXX Sends an NTS message to zipcode zzzzz @ the state or province of xx.

SERVICE MESSAGES

If the message that you have QSl'd and deleted cannot be delivered because of an incorrect telephone number, incorrect address, no listing, etc., then we request that all users

generate a service message back to the originating station as to the reason why the message was undeliverable. The message should be sent in standard NTS form and should be sent therefore to the 5 digit zip @ ntsxx of the originating station; who by the way, may not be the station who first put it on packet. You may not have a callbook or a zip code for the originating station but the ARRL radiogram format guarantees that you have a callsign, message number, and place of origin. Thus the message is addressed to the station of origin telling him or her what message number was undeliverable and why. For example, if the callbook says that w6abc in the above example was located in San Francisco with a zip code of 94102, the message may be sent something like this from Illinois:

ST 94102 @ NTSCA <CR> QTC 1 W6ABC SF CA

nr 5 k9ozm arl 21 Chicago il dec 5

alan allen w6abc
2345 mercenary dr
san francisco 94102 bt

arl sixty seven 1 phone
incorrect and no listings for
george or g smyth or
smith x address incorrect also
73 bt

Don K9OZM at w9cd bbs <CTRL Z>

This would give w6abc all the information necessary to be able to see what message did not get delivered and determine why. Maybe his phone book was inaccurate or maybe he made a typo when entering the data or...?

You might have noticed the word arl in the header. That is a NTS symbol to indicate that there is an ARRL arl mesage in the text. The text arl sixty seven is only one of many ARRL canned messages that is sent as an abbreviation over the air. The delivery station then translates the arl number back into English when delivering the message.

In this case ARL Sixty Seven translates as:

Your message number----------undeliverable because of -------. Please advise.

For a list of the ARRL Numbered Radiograms check your packet BBS or write your Section traffic Manager or the ARRL for CD-3 "The ARRL Numbered RADIOGRAMS".

UNBUNDLE YOUR MESSAGES (No Book Traffic)

If you have more than one message even if they are going to the

same state or section, please send them as individual packet BBS messages. Please remember that traffic eventually will have to be broken down to the individual addressee somewhere down the line for ultimate delivery. When the originator places two or more NTS messages destined for different addresses within one packet message, eventually the routing will require the message to be broken up by either the bbs sysop or the relay station; placing an additional unreasonable burden being on them both. Therefore it is suggested that the originator to expend the extra word processing in the first place and create individual messages per city regardless if there are common parts with other messages. This means that book messages are not suitable in packet at this time unless they are going to the same city.

NCN AND SCN BOUNDARIES

The Boundaries between NCN and SCN are often unclear to many. They are based on the ARRL Division lines which in turn are based on Sections lines which in turn are based on County lines.

SCN is composed of Los Angeles, Orange, Inyo, Riverside, San Bernardino, Imperial, San Diego, Santa Barbara, San Luis Obispo, and Ventura Counties.

NCN then is the rest of the California Counties not just mentioned plus the entire State of Nevada.

For a further elaboration of SCN and NCN boundaries, see the file, "CALNVNET.NTS" in most WestNet BBS.

Amateurs are encouraged to use the NTS frequently - the experience will be fun and your friends will appreciate hearing from you ---but, most important, the experience will also give you training for emergency communications (which all Amateurs should be able to work with when the occasion demands--- Mexico City, etc.)

THIRD PARTY AGREEMENTS

The FCC limits our ability to engage in third party traffic with foreign nations. Currently third party traffic is permitted with Antigua , Barbuda, Belize, Canada, Costa Rica, Cuba, Cyprus, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, St. Christopher, Nevis, St. Lucia, St. Vincent, Argentina, Bolivia, Brazil, Chile, Columbia, Ecudor, Guyana, Paraguay, Peru, Trinidad, Tobago, Uraguay, Venezuela, Geneva (4U1ITU), Israel, Jordan, Ghana, Liberia, The Gambia, Swaziland, Australia, Pitcairn Island. These agreements are constantly changing and "QST" magazine publishes the updates regularly.

FURTHER REFERENCES

The following files are found on most WestNet BBS:

CalNvnet.NTS :

A list of all the NTS section nets in California and the breakdown of section boundaries. Please note that the May 1986 issue has the incorrect time for SCN. SCN begins at 1830 local time not 1900 local.

Desig.NTS :

A list of the up-to-date valid designators that are supported by the packet system at this time. This list is periodically updated. Please note there are still a few states and provinces that are not yet interfaced with packet and thus should not be used at this time.

Whatis.NTS : Short history of NTS and what it does.

The above files may be under different names on your BBS. Ask your sysop. More info to NI6A @ W6CUS.

Further information on NTS can be obtained from your local Section Traffic Manager or the ARRL, 225 Main St. Newington, CT 06111, especially;

"The Public Service Communications Manual"
"CD-218" (Net procedure, abbreviation, and message format aid)
"The ARRL Field Organization" (FSD 300)
"The ARRL Net Directory" $1.00 (FSD 50)
"The ARRL Field Resources Directory"
"The ARRL Numbered RADIOGRAMS" CD-3

AEA Amateur Ambassador Award

Advanced Electronic Applications, Inc, gives its Amateur Ambassador Award each year to a radio amateur who demonstrates extraordinary efforts in promoting Amateur Radio. AEA accepts entries for the 1990 award until May 1, 1990. They ask for a report outlining activities in three categories: "dedication to Amateur Radio, positive influence on those outside the amateur service, and initiation of special projects or programs to promote Amateur Radio."

The recipient, chosen by judges from AEA, receives $1,000 and an all-expense paid trip to the 1990 ARRL National Convention. Forward entries to AEA, Amateur Ambassador Award, PO Box 2160, Lynnwood WA 98036.

Call for educational papers

ARRL HQ invites instructors to write educational papers to be included in the 1990 edition of Proceedings of the ARRL National Educational Workshop. Topics for papers cover all aspects of Amateur Radio instruction and recruitment, such as training techniques, curriculum development, acceptance in school systems, one-on-one tutoring, and working with youths, seniors and the disabled. Examples from last year's publication are: "Syllabus for Teaching an Amateur Radio Training Class -- Novice and Technician in Eight Weeks," by Monte Bateman, WB5RZX and Davis Egle, KD5IT; and "Enhancing the Learning Process for Code and Theory," by Ralph Rurch, W8LCU. Papers are due at HQ by April 27th 1990.

Interested instructors should obtain an author's kit from ARRL, Rosalie White, WA1STO, 225 Main Street, Newington CT 07111 or call 203 666 1541. Instructors are welcome to present their papers at the 1990 ARRL Educational Workshop during the ARRL National Convention on Saturday, June 9, at Kansas City, MO. ARRL will make the Proceedings of the ARRL National Educational Workshop publication available at the workshop. Amateur Radio instructors will bring together new ideas and methods they've successfully tried in their classes. Announcements and showings of new aspects of the ARRL Instructor Program will be made at a forum held the same day.

Free DX QSL cards!

Free DX QSL cards!

For those of you new to the Amateur Radio Service, or at least new to the excitement of receiving DX QSL cards, I have a bargain for you - pounds and pounds of free DX QSL cards from all over the world.

These are cards that their proper owners have no desire to obtain by sending SASES to their QSL bureaus. I hold them for 90 days and then make them available to anyone who wants them.

To obtain any number of ounces (POUNDS if ya want!!) of cards, simply send me appropriately sized self addressed envelopes with however many ounces of postage you wish. If you send me three envelopes with a total of 9 ounces of postage, you'll get nine ounces of free DX QSL cards. Such a deal!

My address is: Luck Hurder KY1T, 225 Main St, Newington CT

06111. 73 de KY1T

Another 220 theft

January 12, 1989

Synopsis: A proposed use of the 220-222 MHz band by the following information extracted from the FCC's 16 page document. It is passed to those of you interested in 220 MHz and/or SAR (Search and Rescue of Emergency Services (W6HIR @ WA6NWE.CA)

Subject: FCC PR Docket No. 89-599 RM-6681
Adopted: December 12, 1989; Released: December 20, 1989

NOTICE OF PROPOSED RULE MAKING

This notice of proposed Rule Making proposes to establish a Personal Emergency Locator Transmitter Service (PELTS)) to provide individuals in remote areas a means to alert others of an emergency situation and to help search and rescue personnel locate those in distress.

A nationwide system of base stations and portable units on 10 5 khz channels. Four channels would be full duplex emergency and assistance voice communications between persons needing o and from a dispatcher. The remaining six channels would be for simplex communications. One channel would be reserved for one-way non-commercial information messages from a base station; one channel for non-voice emergency alerting and homing operations (like the current ELT's); and the remaining four channels for short distance simplex voice commun- ications. Proposed that base stations be licensed only to govern- mental agencies and private organizations whose primary function is search and rescue or w recognized governmentantity as prg such. Elibility for portable operation wouyld not be restricted.

Equipment would have to meet technical standards and design specificatsions, comments, or suggestions to this proposal the time period for making comment is open until March 20, 1990 with reply comments due April 19, 1990. Please reference PR Docket No. 89-599 in any corres- pondence. If you need more information, call the FCC at (202) 632-7197.

What is a beverage? - K8ND

> Pete, I have always wanted to know -- and now I think I can
> ask -- what is a 'beverage antenna'?. I keep seeing
> references to such.

Fred: A 'beverage antenna' is a receiving antenna, part of a class of antennas called 'travelling wave antennas'. It is named after one H.H. Beverage, who, along with some colleagues, developed it in the 1910's or 20's for transatlantic links on VLF.

In amateur use, it's generally used on 160 or 80, although some have been used on 40 with some success. It is a wire (or two) running for a wavelength or more, mounted 8-20 feet off the ground. If terminated with a resistor (about 470 ohms) to ground (or a reflection transformer), the wire will be unidirectional in the direction towards the resistor. If it's not terminated, it will show bidirectional directivity along it's axis.

Some variations you'll see are folks just laying a wire on the ground (works OK, but signal strngths way down!), and stringing two wires side-by-side and feeding them through two lengths of coax with a matching transformer at the feed end and a reflection transformer at the far end, to provide a selectable unidirectional receiving antenna. This latter form is what we have used at the W8LT ARRL 160 Meter Contest operation for a few years, and THEY DO WORK!

We had four of the two-wire versions, covering 8 directions and selecting the desired one at the station. All of them were 500 feet or longer, with the longest approximately 850 feet long. I don't have my notebook with me, or I'd give you a bibliography. QST has had several nice articles in the past five years (look under "Receiving Antennas for Low Band" type topics.

73, Jeff K8ND

FCC 89-329 - WARC92 Info..please read

In the Matter of An Inquiry Relating to Preparation for the International Telecommunication Union World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum

Gen. Docket No. 89-554

Adopted: November 28, 1989; Released: December 13, 1989

By the Commission:

NOTICE OF INQUIRY

1. This proceeding is established in order to generate public comment regarding Commission preparations for an International Telecommunication Union (ITU) World Administrative Radio Conference (WARC) for dealing with frequency allocations in certain parts of the spectrum. The agenda for the conference, which is currently scheduled to be held during the first quarter of 1992, will be developed taking into account allocation issues contained in the Resolutions and Recommendations relating to frequency allocations that were adopted at three prior ITU conferences: WARC for the Planning of the HF Bands Allocated to the Broadcasting Service, Second Session, 1987 (WARC HFBC-87); WARC for the Mobile Services, 1987 (WARC MOB-87); and WARC on the Use of the Geostationary Satellite Orbit and on the Planning of Space Services Utilizing It, Second Session, 1988 (WARC ORB-88). In addition, the 1992 conference should consider Articles 55 (Rev.) and 56 (Rev.) and Appendix 26 of the international Radio Regulations and may consider defining certain new space services and allocations to these services in frequency bands above 20 GHz. This proceeding will assist Commission efforts, in coordination with the National

Telecommunications and Information Administration (NTIA) and the Department of State (DOS), in the formulation of United States proposals and policy for the

1992 conference.

I. BACKGROUND

2. The last general spectrum allocations conference was held in 1979 (WARC- 79). At WARC-79, administrations agreed to a program of specialized WARCs for the ensuing decade. The ITU members also recognized that, in the future, there could be a need for a general or partial revision of the international Radio Regulations, especially for services not covered by the specialized conferences scheduled for the 1980s. WARC-79 adopted Recommendation 13, calling on the ITU Administrative Council to consider, as from 1990, whether it would be necessary to convene a WARC for such purposes.

3. The issue of scheduling future conferences during the 1990s

was discussed at both the 43rd Administrative Council (1988) and the 44th Administrative Council (1989). In particular, the 44th Administrative Council considered the possibility of a spectrum allocations conference in 1992; however, it did not advise the 13th Plenipotentiary Conference (Plenipot), which was held in Nice, France, May 23-June 29, 1989, on a schedule of future conferences. [FN1] The Nice Plenipot faced a difficult task because the specialized WARCs that were held during the 1980s resulted in the adoption of over 100 Resolutions and Recommendations requesting actions by a future competent WARC. Ultimately, administrations at the Nice Plenipot agreed that a WARC should be held in 1992 for dealing with frequency allocations in certain parts of the spectrum, as described below:

(a) WARC-92 will take into account the Resolutions and Recommendations of WARC HFBC-87, WARC MOB-87 and WARC ORB-88 relating to frequency allocation (see Resolution PL-B/1);

(b) WARC-92 also may consider defining certain new space services and consider allocations to these services in frequency bands above 20 GHz (see Resolution PL-B/1);

(c) WARC-92 will consider modifications to Article 12 to reflect changes to the aeronautical mobile (OR) frequency allotment plan in Appendix 26 (see Resolution PL-B/2); and

(d) WARC-92 will consider the provisions of Articles 55 (Rev.) and 56 (Rev.) of the Radio Regulations, as amended by WARC MOB-87, regarding on-board maintenance of shipborne radio and electronic equipment (see Resolution PLEN/8).

In Appendix A, we provide the texts of Resolutions PL-B/1, PL-B/2 and PLEN/8 from the Final Acts of the Nice Plenipot.

4. The agenda for WARC-92 will be established by the Administrative Council. We anticipate that the agenda for WARC-92 will be considered at the Administrative Council scheduled for Spring, 1990. The Administrative Council also will establish the exact dates for the conference which, according to Resolution PL-B/1, is scheduled for the first quarter of 1992 for four weeks and two days in Spain. Comments received in this proceeding will aid in the development of U.S. positions on the WARC-92 agenda and its schedule when it is addressed at the Administrative Council meeting.

5. Based on the rather broad directives provided in Resolution PL-B/1, the potential agenda for WARC-92 encompasses numerous services and issues and a wide range of frequency bands. We anticipate that the Administrative Council will define more specifically the services and frequency bands to be considered by WARC-92. Nonetheless, given the relatively short time period available for conference preparations, it is important that the Commission, along with other U.S. government agencies, begin formal preparations for WARC-92 at this time. Given these

circumstances, we believe it is useful to summarize briefly the major accomplishments of HFBC-87, WARC MOB-87 and WARC ORB-88 and to highlight some of the outstanding issues posed by those three major conferences. In Appendix B, we have prepared a preliminary list of the Resolutions and Recommendations from each of these conferences that may be relevant to the potential agenda of WARC-92. [FN2] In view of the relatively short amount of time allotted for the conference, the WARC-92 agenda should include only those items that are urgent in nature and are predominantly allocation oriented. Commenters are invited to address the selection of those Resolutions and Recommendations

listed in Appendix B and any others that are essentially allocation oriented, urgent in nature and essential to U.S. interests. We want to emphasize that WARC-92 will be concerned with international allocation issues. The future impact on U.S. domestic radio communications services would depend on a decision by the Commission to implement any new international allocation changes, subject to notice and comment in a Rule Making proceeding.

II. HFBC-87

6. HFBC-87 was the second session of a two-part conference concerning planning of High Frequency (HF) bands between 5950 and 26100 kHz that are allocated to the broadcasting service. HF frequencies are used for both domestic and international broadcasting purposes by numerous administrations. The U.S. government sponsors two international broadcasting services on HF frequencies, the Voice of America and Radio Free Europe/Radio Liberty, and the Commission authorizes international HF broadcast stations that are privately owned. [FN3] The main issue addressed at HFBC-87 was whether to replace the current procedures (Article 17 of the international Radio Regulations) for coordinating HF broadcast use, which are based on voluntary consultations between governments, with a computer based central planning system to be managed by the International Frequency Registration Board (IFRB), a permanent organ of the ITU. The conference ultimately adopted broad planning principles and deferred any decision on a new planning system. The conference authorized the IFRB to revise the computer planning system then under consideration and to conduct further planning exercises in parts of certain bands. The Nice Plenipot has scheduled a WARC for 1993 for dealing with matters connected with the planning of the broadcasting service in the HF bands, and the agenda for that conference is to take into account the Resolutions and Recommendations of HFBC-87 relating to the HFBC Planning System and procedures (see Resolution No. PL-B/1). Unless the 1993 conference decides otherwise, the current frequency coordination procedures will remain in force.

7. Another major issue addressed at HFBC-87 was spectrum allocations. Additional spectrum had been allocated for broadcasting services by WARC-79 at 9 MHz and above 10 MHz. [FN4] These so-called "expansion bands" were the subject of a two-session planning conference (i.e., WARC HFBC-84 and HFBC-87)

and were to come into use in two stages: above 10 MHz in 1989 and 9 MHz in 1994. No additional allocations were made at 6 MHz or 7 MHz, which is the spectrum used by most HF broadcasting operations, because of the ongoing requirements of existing radio services in this portion of the spectrum. The U.S. and twenty-one other administrations protested the inadequacy of the allocations in formal reservations to the Final Acts of WARC-79. At HFBC-87, the U.S. and other administrations continued to press their view that the current and future needs of HF broadcasting required the allocation of additional spectrum. HFBC-87 adopted Recommendation 511 concerning the possibility of extending the spectrum allocated exclusively to HF broadcasting at a future competent WARC with the aim of planning that spectrum within the framework of the improved HFBC Planning System. Four countries (Argentina, Colombia, Honduras and Mexico) entered formal reservations to the Final Acts on this issue. When HFBC-87 failed to agree to the implementation of the proposed HFBC Planning System and the procedures under consideration, administrations adopted Resolution 512 whereby the expansion bands above 10 MHz will not come into use until a date to be decided by a future planning conference (see discussion in paragraph 6 on 1993 HF conference). Nonetheless, the U.S. and some other administrations use the expansion bands for HF broadcasting under No. 342 of the international Radio Regulations, whereby administrations may assign frequencies provided harmful interference is not caused to services operating in accordance with the Radio Regulations.

8. At the conclusion of HFBC-87, the U.S. submitted a four-part protocol statement to the Final Acts. [FN5] The U.S. restated its view that WARC-79 did not provide adequate allocations for HF broadcasting and consequently it would not be possible to plan all frequency bands to satisfy all countries' HF broadcasting needs without additional spectrum. In the other parts of its HFBC-87 protocol statements, the U.S. reserved its position as to the financial costs and future implementation of the HFBC Planning System, including the effects of harmful interference in contravention of Article 35 of the Convention ("jamming") on the implementation of planning procedures and the provision of broadcasting service.

9. Given the results of HFBC-87 and the fact that another HF planning conference will follow WARC-92, we seek comments in the following areas:

(a) What are the projected frequency needs of the HF broadcasting service, taking into account the expansion bands

whose use has been deferred by HFBC- 87? What are the bases for these projections?

(b) Do allocations have to be exclusive e.g., geographic, time-sharing?

(c) Should new allocations be regional or worldwide?

(d) What other issues, consequential to allocating additional spectrum for HF broadcasting services, may need to be addressed by WARC-92?

III. WARC MOB-87

10. WARC MOB-87 was designed to review and revise the International Radio Regulations concerning the mobile services, the mobile satellite services, and the radionavigation and radiodetermination satellite services. The conference also was charged with incorporating in the Radio Regulations provisions for implementing a Global Maritime Distress and Safety System (GMDSS) and, further, with considering the provision of aeronautical public correspondence (i.e., public telephone service) with aircraft. MOB-87 was very broad in scope and dealt with a number of frequency allocation and regulatory issues concerning not only terrestrial mobile services and specialized mobile services (e.g., maritime positioning services) but also new mobile satellite services (e.g., land mobile and radiodetermination satellite services).

11. MOB-87 concluded with several major accomplishments. Primarily, the conference adopted a new Chapter N IX of the Radio Regulations to implement the future GMDSS system. In addition, spectrum was reallocated in the 1.5 and 1.6 GHz bands for new land mobile satellite services (LMSS) [FN6] and in the 1.6, 2.4 and 5.1 GHz bands for radiodetermination satellite services (RDSS). [FN7] The U.S., however, reserved its position on the 1.5 and 1.6 GHz LMSS allocation decisions in a protocol statement to the Final Acts. [FN8] In other actions, maritime mobile allocations in the HF bands were revised. In particular, allocations made by WARC-79 for maritime mobile services were implemented by MOB-87, and the 4 and 8 MHz shared bands were used to increase the number of duplex channels in the radiotelephone plan.

12. Numerous other decisions were taken at MOB-87. For example, requirements regarding radio operator and radio equipment maintenance personnel aboard ships were adopted and added to Articles 55 and 56 of the Radio Regulations. However, twenty-three countries, including the U.S., submitted reservations to the Final Acts on the maintenance personnel requirement. [FN9] At the Nice Plenipot, four additional countries took the same reservation. [FN10] In other areas, spectrum was allocated in the 1.5 and 1.6 GHz bands for terrestrial public correspondence with aircraft. [FN11]

13. There are several areas that, although they were addressed at MOB-87, are potential topics for the WARC-92 agenda. By Resolution No. 208, MOB-87 recommended that a WARC be convened no later than 1992 to consider additional allocations for mobile satellite and other mobile services in the 1-3 GHz range. European countries seem particularly interested in this subject because of their desire to develop Pan-European mobile systems of various types after 1992. European interests also include

additional spectrum for international digital land mobile systems (see, e.g., Recommendation No. 205, MOB-87). At MOB-87, a footnote change to the international Table of Frequency Allocations was adopted to allow twelve countries in Region 1 to use the 1700-2450 MHz band on a primary basis for land mobile services subject to Article 14 of the international Radio Regulations. In Region 2, the 1700-2450 MHz band is already allocated to the mobile services on a primary basis, and thus this allocation issue does not appear to be a concern for the U.S. private sector.

14. We pose several general questions on the mobile services considered at WARC MOB-87 (e.g. mobile-satellite, aeronautical, RDSS, maritime) and request specific comments on the following matters:

(a) Which of these mobile services may need additional spectrum during the 1990s? What are the projected frequency needs (amount and bands) of these services? What are the bases for these projections?

(b) How can those additional spectrum needs be met in the 500-3000 MHz range? Can some allocations be on a shared basis?

If yes, what sharing criteria would be required?

(c) What other issues, consequential to reallocating spectrum for mobile services, may need to be addressed by WARC-92?

15. As discussed above at paragraph 3, WARC-92 also will consider one specific topic that was addressed at MOB-87. By Resolution PLEN/8, the Nice Plenipot has instructed the Administrative Council to include on the WARC-92 agenda consideration of Articles 55 (Rev.) and 56 (Rev.) of the Radio Regulations, as amended by MOB-87, regarding requirements for on-board maintenance of shipborne radio and electronic equipment. [FN12]

IV. WARC ORB-88

16. WARC ORB-88 was the second session of a two-part conference on space services generally referred to as Space WARC; the first session took place in 1985 (WARC ORB-85). WARC-79 had called for a two session WARC on the use of the geostationary satellite orbit and the planning of space services utilizing it. By adoption of Resolution 3, WARC-79 had expressed administrations' concerns that there is a need for equitable access to, and efficient and economical use of, limited orbit and spectrum resources by all countries, and that the goal of the proposed Space WARC was to address these issues. The two session Space WARC concentrated primarily on Fixed-Satellite Service (FSS) and Broadcasting-Satellite Service (BSS) issues.

17. Space WARC adopted a dual planning approach for the FSS. ORB-88 established an FSS Allotment Plan, whereby

administrations are allotted a nominal orbital position within a predetermined arc, minimum bandwidth in designated frequency bands (expansion bands) and a specified service area intended to meet national service requirements. [FN13] For other FSS bands (conventional bands) subject to Improved Regulatory Procedures, ORB-88 determined that when an administration incurs major difficulty in obtaining coordination agreements, it may use certain additional procedures (i.e., multilateral planning meetings).

18. There were a number of topics addressed at ORB-88 that are

potential issues for WARC-92 as well. By Resolution COM 5/1, ORB-88 called for a future conference to consider an allocation for satellite sound broadcasting (BSS Sound), including feeder links. Such an allocation could be used to provide wide area, high quality service to listeners with portable and automobile receivers. Noting similarities of transmission characteristics between BSS Sound and mobile-satellite service, the resolution called for an allocation for BSS Sound in the 500-3000 MHz frequency range. The resolution also invited the CCIR to pursue technical studies on BSS Sound in that frequency range and to submit a report to the WARC that will be considering this topic. As noted by ORB-88, consideration of an allocation for BSS Sound at 500-3000 MHz would complement calls by HFBC-87 to revise the HF allocations for broadcasting service and by MOB-87 to revise partially the allocations at 1000-3000 MHz. ORB-88 also expressed concern about space research and space operation services below 3000 MHz and by Recommendation COM 6/F urged that the next competent WARC examine the increased coordination difficulties faced by these services, including difficulties in obtaining agreements under Article 14. In another area, by Resolution COM 5/3, ORB-88 called for a future conference to consider allocations for wide RF-band high definition television (HDTV) broadcasting by satellite, including feeder links, preferably on a world-wide basis. Although it noted that certain types of HDTV can be provided in the 11.7-12.7 GHz band that is included in the BSS plan, the resolution cited the 12.7-23 GHz frequency range as the appropriate band from which to select a world-wide allocation. According to the resolution, such an allocation could be used to provide higher quality HDTV than that possible at 12 GHz by allowing the use of wide bandwidth channels world-wide.

19. WARC-92 also presents the opportunity to make available additional frequency bands, especially above 20 GHz, for a variety of new space services. For example, the U.S. space program could use additional spectrum for deep space exploration, advanced tracking and data relay satellite systems, space stations and commercialization of space initiatives. The Nice Plenipot has authorized the Administrative Council to consider for the WARC-92 agenda defining new space services and allocating to those services spectrum above 20 GHz, as discussed at paragraph 3.

20. We therefore pose several general questions on space

services and request specific comments in these areas:

(a) Is there a requirement for BSS Sound or HDTV by satellite in the U.S.? What are the projected spectrum needs of each of these services recognizing that use of the UHF television band is not practical in the U.S. for BSS Sound? [FN14] What are the bases for these projections?

(b) Should allocations for BSS Sound or HDTV by satellite be exclusive or on a shared basis? If specific bands are suggested, what other services or existing systems could be affected by reallocations for BSS Sound and HDTV? If there is a requirement, is it necessary to have a worldwide allocation for HDTV by satellite, as called for in Resolution COM 5/3? Why aren't the existing allocations at 12 GHz and 23 GHz sufficient to meet the narrow and wide RF-band HDTV by satellite requirements?

(c) What new space services above 20 GHz will need access to spectrum during the 1990s? Describe the space activities that would comprise these new services.

(d) What are the projected frequency needs of proposed new space services above 20 GHz? Would the allocations be exclusive or on a shared basis? If on a shared basis, what services are compatible and what sharing criteria would be required?

(e) What other issues, consequential to allocating spectrum to the space services, may need to be addressed by WARC-92?

V. OTHER WARC-92 ISSUES

21. By Resolution No. PL-B/2, the Nice Plenipot instructed the IFRB to prepare a draft channelling arrangement for the frequency bands in the Frequency Allotment Plan for the Aeronautical Mobile (OR) service (Appendix 26 of the international Radio Regulations), to obtain the views of all administrations on the proposed channelling arrangement, and to prepare for consideration by WARC- 92 the minimum modifications of Article 12 of the Radio Regulations to effect the proposed changes to the plan. The resolution also states that the proposed changes to the plan will be in effect at 0001 hours UTC on 15 December 1992, subject to confirmation by WARC-92. We view the resolution of this issue as an Executive Branch matter and therefore U.S. proposals and positions will be developed under the auspices of NTIA.

22. WARC-92 also will need authority to make consequential modifications to the International Radio Regulations that are necessitated by actions on the specific matters ultimately contained on the agenda. At times, procedural regulations also may need to be modified in order to accomplish successfully allocation changes. For example, as noted in paragraph 18 discussing space research operations below 3 GHz, it is sometimes difficult to reach agreements under Article 14

procedures. While it is possible to list other examples of potential consequential modifications, some caution should be observed in granting WARC-92 authority to make consequential modifications. Given the relatively short time period scheduled for WARC-92, the conference will most likely have to focus its attention on selected topics. Thus, commenters should highlight those consequential modifications they believe are a logical consequence of acting on suggested allocation changes.

VI. ADDITIONAL MATTERS

23. A substantial amount of international and domestic preparatory activity will precede WARC-92. At the international level, the conference preparatory activities will be performed by various international organizations and by various ITU components such as the Administrative Council, the IFRB, and the CCIR and its Study Groups. Commission staff members, representatives from other government agencies, and U.S. private industry representatives will be participating in meetings of these international organizations. The CCIR, based on recommendations from its Study Groups, is currently in the process of establishing an overall Joint Interim Working Party (JIWP-WARC 1992) to prepare a consolidated report for WARC-92 on the technical aspects of items that may be included on the WARC-92 agenda. The CCIR Study Groups are forming individual Interim Working Parties (IWPs) or Joint Interim Working Parties (JIWPs) that will be addressing WARC-92 agenda items relevant to the interests of the different Study Groups. The individual IWPs and JIWPs will prepare reports for submission to the JIWP-WARC 1992 for consideration. These groups will be concentrating on those topics identified for CCIR study in relevant Resolutions and Recommendations adopted by HFBC-87, MOB-87 and ORB-88, some of which are discussed in this Notice of Inquiry.

24. In the U.S., government conference preparations have begun and are being conducted by the Interdepartment Radio Advisory Committee (IRAC) and its Ad Hoc 206 interagency group. Ad Hoc 206 will be responsible for coordinating the preparatory activities of affected government agencies that use frequencies allocated for the government's telecommunications needs. IRAC will make its conference recommendations to NTIA, which is responsible for developing Executive Branch telecommunications policies. NTIA's recommendations for U.S. policy and proposals will then be forwarded to the Department of State for coordination with the Commission's recommendations. Because the Commission participates in IRAC through a liaison representative, we expect the Commission's and NTIA's recommendations for U.S. proposals to be generally consistent with each other.

25. The Commission intends to establish a joint industry/government advisory committee to assist it in preparing for WARC-92. The advisory committee will be governed by the provisions of the Federal Advisory Committee Act of 1972, as

amended. [FN15] The Commission has used similar advisory committees to assist in preparations for previous ITU conferences (e.g., Space WARC). The Commission will consider reports from the advisory committee in making its own recommendations for U.S. proposals. The Commission's recommendations will be contained in a Report and Order in this proceeding, and they also will be forwarded to the Department of State for coordination with NTIA's recommendations, as discussed above.

26. As conference preparatory activities proceed both internationally and domestically, potential issues for WARC-92 will be more specifically identified. When the agenda for WARC-92 is established by the ITU Administrative Council, preparatory activities will have a clearer focus and U.S. views on the designated agenda items will have to be clarified. Thus, we intend to issue a Further Notice in this proceeding to deal with more specific issues.

27. Authority for this Notice of Inquiry is contained in Section 4(i), 303(r) and 403 of the Communications Act of 1934, as amended. All submissions by parties to this proceeding or persons acting on behalf of such parties must be in written

comments, reply comments or other appropriate pleadings. Reply comments must be served on the person(s) who filed comments to which the reply is directed. The Commission may take into consideration ideas and information not contained in the comments, provided that such information or a writing indicating its nature or source is placed in the public file, or is otherwise publicly available, and provided that the Commission's reliance on such information is noted in its written disposition of this proceeding. Pursuant to Section 1.1204(a)(4) of the Commission's Rules, no ex parte restrictions apply in this proceeding.

28. Pursuant to applicable provisions set forth in Sections 1.415 and 1.419 of the Commission's Rules, interested parties may file comments on or before February 16, 1990, and reply comments on or before March 16, 1990. All relevant and timely comments will be considered by the Commission before final action is taken in this proceeding. To file formally in this proceeding, participants must file an original and 5 copies of all comments, reply comments, and supporting comments. If participants want each Commissioner to receive a personal copy of their comments, an original plus nine copies must be filed. Comments and reply comments shall be filed with the Secretary, Federal Communications Commission, 1919 "M" Street, N.W., Washington, D.C. 20554. All filings in this proceeding will be available for public inspection during regular business hours in the Docket Reference Room (Room 239) of the Federal Communications Commission, 1919 "M" Street, N.W., Washington, D.C. 20554.

29. The point of contact on this Notice of Inquiry is William Torak, Office of

Engineering and Technology, (202)632-7025.
FEDERAL COMMUNICATIONS COMMISSION
Donna R. Searcy
Secretary

APPENDIX A

RESOLUTION No. PL-B/1

Future Conferences of the Union

The Plenipotentiary Conference of the International Telecommunication Union (Nice, 1989),

having considered

a) section 3.4 of the Report of the Administrative Council to the Plenipotentiary Conference relating to planned conferences;

b) the proposals submitted by several Members of the Union;

c) the necessary preparatory work to be carried out both by the permanent organs of the Union and by the administrations before each session of a Conference,

resolves

1. that the schedule of future conferences shall be as follows:

1.1 Second Session of the Regional Administrative Conference for the Planning of VHF/UHF Television Broadcasting in the African Broadcasting Area and Neighbouring Countries (Geneva, 13 November-8 December 1989);

1.2 Regional Administrative Conference of the Members of the Union in the African Broadcasting Area to Abrogate the Regional Agreement for the African Broadcasting Area (Geneva, 1963) (Geneva, 4-5 December 1989);

1.3 An additional Plenipotentiary Conference if so decided by the Administrative Council at its 1991 session (Geneva, two weeks);

1.4 World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum, taking into account the Resolutions and Recommendations of WARC HFBC-87, WARC MOB-87 and WARC ORB-88 relating to frequency allocation (Spain, first quarter of 1992, four weeks and two days);

1.5 World Administrative Radio Conference for Dealing with Matters Connected with the Broadcasting Service in the HF Band (Geneva, first quarter of 1993, four weeks);

1.6 Regional Administrative Radio Conference to Establish Criteria for the Shared Use of the VHF and UHF Band Allocated to Mobile, Broadcasting and Fixed Services and, if necessary, planning for the broadcasting service in all or part of Region 3 and countries concerned in Region 1, to be determined by the Administrative Council after consultation with Members concerned;

1.7 Plenipotentiary Conference (Japan, 1994, five weeks), to be confirmed by the Administrative Council at its 1991 session;

2. that:

2.1 the agendas for the conferences mentioned in sections 1.1 and 1.2 already established by the Administrative Council shall remain unchanged;

2.2 the agenda for the Conference mentioned in section 1.4 shall be established by the Administrative Council, taking into account the Resolutions and Recommendations of WARC HFBC-87, WARC MOB-87 and WARC ORB-88 relating to frequency allocations; in addition this Conference may consider defining certain new space services and consider allocations to these services in frequency bands above 20 GHz;

2.3 the agenda for the conference mentioned in section 1.5 shall be established by the Administrative Council taking into account the Resolutions and Recommendations of WARC HFBC-87 relating to the HFBC Planning System and procedures:

3. that the conferences shall be held within the period indicated in section 1 above, the precise dates being set by the Administrative Council after consulting the Members of the Union, and leaving sufficient time between the various conferences. However, in cases where precise dates are indicated, they shall not be changed. The durations indicated in section 1 above for conferences for which the agendas have already been established shall not be changed; the precise duration of the other conferences shall be decided by the Administrative Council after their agendas have been established, within the duration limits indicated in paragraph 1.

RESOLUTION No. PL-B/2

Improvement of Use by the Aeronautical Mobile (OR) Service of the Frequency

The Plenipotentiary Conference of the International Telecommunication Union (Nice, 1989).

considering

a) that the Frequency Allotment Plan for the Aeronautical Service prepared by the International Administrative Aeronautical Radio Conference (Geneva, 1949) and adopted by the Extraordinary Administrative Radio Conference (Geneva, 1951) was substantially adopted by the Administrative Radio Conference (Geneva, 1959) and included in the Radio Regulations as Appendix 26;

b) that the Extraordinary Administrative Radio Conference (Geneva, 1966) adopted a separate Plan for the aeronautical mobile (R) service and decided to include this Plan in the Radio Regulations as Appendix 27;

c) that the World Administrative Radio Conference on the Aeronautical Mobile (R) Service (Geneva, 1978), adopted technical principles for establishing the Frequency Allotment Plan for the aeronautical mobile (R) service, in particular the use of the 3 kHz separation between carrier frequencies for certain classes of emission and powers which can be directly applied in establishing the Allotment Plan for the Aeronautical Mobile (R) Service;

d) that the Allotment Plan for the Aeronautical Mobile (OR) Service (Appendix 26) has not therefore been revised since the Administrative Radio Conference. (Geneva, 1959);

e) that, since 1959 many additional countries have become Members of the Union and therefore have no allotments in the Plan of Appendix 26;

f) that the World Administrative Radio Conference (Geneva, 1979) adopted Resolution No. 403 relating to the of the frequencies 3 023 and 5 680 kHz common to the aeronautical mobile (R) and (OR) services necessitating common characteristics between these mobile services for safety purposes.

IARN for January 27th, 1990

The I.A.R.N., International Amateur Radio Network, airs a 45-minute program 5 times daily simultaneously on 3975 KHz (LSB); 14275, and 28475 KHz (USB) at these UTC times: 1200, 1400, 1800, 2200, and 0100. When the I.A.R.N. is activated on 14.275 during emergencies, the program may be moved down to 14.265 KHz (3975 and 28475 may be affected.) There are two additional Sunday transmissions: on 3890 KHz (AM) at 2300, and 7290 KHz (AM) at 2400. The I.A.R.N. program is transmitted by Glenn Baxter, K1MAN, from Belgrade Lakes, ME. Telephone: (207) 495-2215; FAX: (207) 495-2069; IARN/RAIN computer BBS: (207) 495-2490.

I.A.R.N. broadcasts 4 times daily from Los Angelas via Frank Collins, N6TAF on 2 frequencies: 28670 KHz at 1545 hours, beaming the east coast; and on 21275 KHz at 2000 (also beaming the east coast), 2300 (beaming the Pacific), and 0100 (beaming north. For more information, contact Frank at the VA hospital in L.A., (213) 478-3711, ex. 5230.

The current program, on line now 'til 1800 UTC, Sat., Jan. 27, 1990, includes: 2 editorials dealing with the ongoing "net mess"

on 14.313 MHz; Newsline; the last segment of an interview with ham radio school teacher, Carole Perry, WB2MGP; and more.

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A R T I C L E S

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Novice Tips from Paul Danzed, N1II

The following article was submitted by Arthur Human, W2HQQ, of the Greater Norwalk Amateur Radio Club, of which Paul is a member. Paul has given permission for the reprint of his article here. Thanks Paul and Arthur!

This month let's talk a little about propagation - or to be more specific, where to work DX from 80 to 10 meters. Those who have been licensed 6 years or less have not seen the true difference between the high point and low point on the sun spot cycle. To put it another way you don't know how good you have it now till you have had it bad later.

Don't delay in getting on the HF bands. In a few years, when local stations are all you can hear on 10 and 15 and "DX" on 20 meters at night are a few W8's, you will long for the good old days or 1989-1990.

There are many ways to tell you what band to operate on - but rather than make a bunch of calculations or spend precious operating time waiting for an up to date propagation forecast broadcast I like to use the tables in each month of QST.

These tables are calculated averages - usually accurate, but sometimes a solar flare, magnetic storm, or some gremlin makes them inaccurate - at least for a few days.

Since they are generally pretty good I use them. Open up the latest QST and look for "How's DX" in the table of contents. You will find a set of curves - and since we live on the east coast only those labeled "East Coast to ...." are of any interest to us.

Let us suppose I want to operate (or only have the time to operate) at 0200Z, late in the evening. I generally look at all the "East Coast to..." curves and try to find one with a peak around the time I want to operate.

For this example East Coast to AUSTRALIA peaks or at least is high around 0200Z, so that is where I would point my beam.

The next question is what band? There are three curves - the top one shows what frequencies could be open 10% of the time - known as "let's take a chance". The middle curve says that for these frequencies the path is open 50% of the time, and the bottom one 90% of the time. I like 50% as a start. Therefore I pick the ham band just below the frequency shown by the 50% curve. I figure equal odds are as good as I am going to get anywhere.

Now the trick - The curves say the path is open - but this does not mean anyone is talking. Listen carefully for weak signals, but if you do not hear anything try calling short (3 by 2) CQ's a few times. I wish I had a nickle for every time I heard nothing on the low end of 15 meter CW, called CQ, and had half dozen JA's come back to me. Everyone was listening, and no one was talking. If you are a relatively new novice or technician, don't wait - you might not get around to upgrading for awhile and the bands are open now - so give it a try.

73s de Paul N1II

70 CM SAT SIGNALS IDENTIFIED

In the past years non-amateur satellite signals have been disovered in the 70 cm band on a regular basis. Usually these satellites can be identified after a while but since this band is a shared band, nothing can be done about these satellite transmissions. In the past half year new signals from three different satellites were found in the 70 cm band. In the past several weeks many confusing and conflicting messages were sent around the European packet network about these satellite signals. Hopefully the following information canclarify the situation.

There are two different types of satellites involved, which should not be confused: the Polar Bear satellites transmitting on 435.974 MHz and the satellite transmitting on 432.882 MHz.

A. Polar Bear satellites

During the spring of 1989 some radio amateurs discovered signals on 435.974 MHz coming from two different satellites. A number of amateur radio stations, especially in the UK, measured the orbital parameters using doppler shift measurements. The satellites were identified last summer as US American military Experimental Arctic Polar Bear satellites. These USAF satellites are in orbits exactly over the poles and are used for research and experiments with radio communications in the polar regions. The effects of aurora and other solar and geophysical phenomena on satellite links near the poles are being investigated using these satellites. A couple of months ago one of these satellites was switched off. The other one is still active but is not switched on continuously. It usually only transmits when it is near the polar regions. The Polar Bear

signals are not very strong on 435.974 MHz. Polar Bear satellites transmit several unmodulated coherent carrier signals on frequencies which are harmonics of 22.946 MHz, so some of the other signals can be received on 137.676 and 413.028 MHz. Polar Bear telemetry transmissions can be heard on 149.980 MHz. The active Polar Bear satellite has NORAD catalog number 17070 and international designation 1986-088A. Kepler orbital elements of this Polar Bear satellite are as follows:

Reference Epoch: 89 200.613056
Decay: 0.0000021 orbits/day/day
Inclination: 89.5349 degrees
A.A.N.: 72.7417 degrees
Eccentricity: 0.003845
Argument of perigee: 184.6712 degrees
Mean anomaly: 175.4099 degrees
Mean motion: 13.726335 orbits/day
Orbit number: 13422

B. Satellite on 432.882 MHz

Many amateurs worldwide have now heard a very strong satellite carrier signal on 432.882 MHz, (my receiver says 432.882 MHz; it could be 432.881 MHz, but certainly not 432.880 MHz). This strong carrier was first discovered by British amateurs on 4 September. Immediately after the signal was reported I started doppler shift measurements. Within one week I was able to identify the satellite. It appeared to be a US American military reconnaissance satellite. Its NORAD catalog number is 11852 and its international designation is 1980-052C. This small satellite was launched in the middle of 1980, together with at least one other military satellite (Big Bird). It is in a near polar orbit at an average altitude of about 1330 km. Since NASA/NORAD do not publish kepler orbital elements for this satellite anymore, I had to determine them myself from numerous doppler shift measurements. Since this type of satellite does not transmit radio signals under normal conditions, it is assumed that its command station has lost control over this pretty old satellite. As a result, they don't seem to be able to switch off the transmitter on 432.882 MHz. Also the fact that the carrier does not seem to be modulated with any useful information indicates that something is wrong with the

satellite. So we may expect this carrier to continue to be transmitted for some time yet. Since it is in the beacon transmitters segment of our 70 cm band, we can just as well use it as an interesting beacon signal from space... My home-made set of kepler elements for 1980-052C is as follows:

Reference Epoch: 89 248.64965278
Decay: 0.0000003 orbits/day/day
Inclination: 96.61 degrees
R.A.A.N.: 71.0 degrees
Eccentricity: 0.0035
Argument of perigee: 42.2 degrees
Mean anomaly: 321.7 degrees
Mean motion: 12.82978 orbits/day
Orbit number: ?

Note: Please do not confuse the Polar Bear satellites with the satellite transmitting on 432.882 MHz (1980-052C). There is no relation between them except for the fact that they all happen to be US American military satellites. Their missions are entirely different.

Since our 70 cm band is a shared band, there is probably nothing we can do against the use of these frequencies by these non-amateur satellites. Probably the best thing we can do is make good use of the availability of these satellite beacon signals for our own radio propagation studies.

Good luck and best 73,

Nico, PA0DLO @ PI8ZAA.